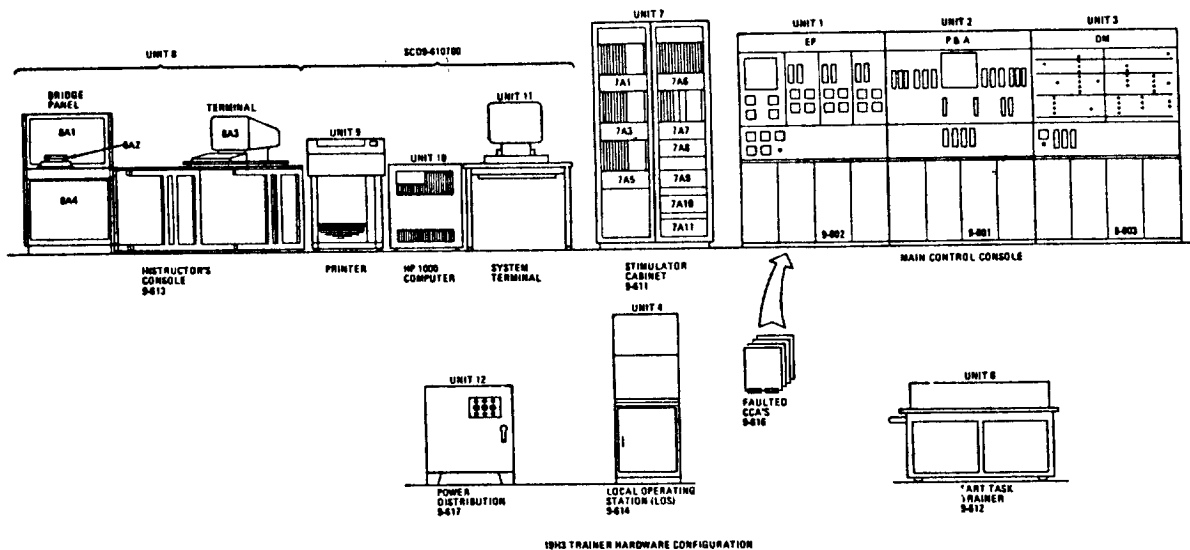


DIRECTORY OF NAVAL TRAINING DEVICES



ARS-50 PROPULSION ENGINEERING SYSTEM OPER/MAINT TRAINER, DEVICE 19H3

TRAINING CATEGORY:

PROPULSION ENGINEERING (Misc.)

ORIGINATING AGENCY:

NAVSEASYS COM

SECURITY CLASSIFICATION:

Device 19H3 is unclassified.

PURPOSE:

To provide realistic training and practice to use ARS-50 Machinery Central Control System (MCCS) console to operate ship's engineering plant, and to maintain and troubleshoot the ARS-50 MCCS.

INTENDED USE:

Classroom use to train EN, EM and IC personnel in operation and maintenance of MCCS.

FUNCTIONAL DESCRIPTION:

Device 19H3 is an electronically simulated MCCS console that provides realistic training in operations and maintenance. The eleven (11) components are described below.

The trainer console sections are full-size replicas of the shipboard console and are identical to production line hardware. Their separate functions are as follows:

The Electric Plant Section provides monitor or control of approximately 340 functions, nearly 200 of which are available on the front panel as dedicated displays or controls. All monitored signals of the MCC can be interrogated by the EP Section operator via a plasma display which also serves as a real-time status and alarm display.

The Propulsion and Auxiliary Section provides monitor or control for approximately 600 functions and signals of which approximately 220 are available as dedicated displays or controls on the front panel. All monitored signals in the MCC (nearly 1,000) can be interrogated by the operator via a plasma display, which also serves as a real-time alarm and status display.

The Damage Monitoring Section monitors the damage control functions onboard ship, such as fire, flooding and intrusion. All monitored signals in the DM Section, are available on the plasma displays on the PA and EP Sections. The DM Section will provide normal status displays only and will not be simulated.

DIRECTORY OF NAVAL TRAINING DEVICES

The Local Operating Station is a full-size replication identical to production line hardware with engine controls and instrumentation to control simulated engine operations and casualties, except that Caterpillar gauge panels, CPP actuator control and Woodward governors are eliminated.

The part-task trainer is a maintenance training device for the sensors used on the ARS-50 that interface to the MCCS. Representative transducers and the circuitry to which they interface are provided.

The simulator/stimulator is a device to electrically/electronically/mechanically stimulate the ship components to simulate shipboard interfaces as required by preprogrammed training scenarios.

The instructor has the capability of inserting and monitoring simulated main propulsion plant, electrical, and auxiliary operations and casualties on the MCCS trainer via the Instructor's Console. He/she will have the capability to start, stop, freeze the problem, and reset the trainer. The Instructor's Console has a functional replication of main propulsion bridge controls including throttle control, EOT meters, and a mode transfer panel.

The computer, printer, terminal and power distribution unit complete the trainer Device 19H3.

PHYSICAL INFORMATION:

Number of Pieces: Total eleven (11)

Size: (Height x Width x Depth)

EP Section - 80" x 62" x 56"
 PA Section - 80" x 62" x 56"
 DM Section - 80" x 62" x 56"
 LOS - 68.25" x 24" x 23"
 Part-Task Trainer - 35.17" x 47.38" x 27.5"
 Simulator - 87.25" x 46.5" x 34"
 Printer - 40" x 27" x 22"
 Computer - 28.3" x 25" x 32"
 Terminal - 17.3" x 15" x 26.2"
 Power Distribution Unit - 48" x 30" x 21"
 Instructor's Console - 48" x 45" x 44.5"

Weight:

EP Section - 2,085 lbs.
 PA Section - 2,145 lbs.
 DM Section - 1,810 lbs.

Other weights not available.

EQUIPMENT REQUIRED (NOT SUPPLIED):

Operator Course: None

Maintenance Course: Standard electrician's tools and test equipment.

POWER REQUIREMENTS:

440 Vac, 3-Phase, 60 cycle, 7.5 amp capacity outlet.

PUBLICATIONS FURNISHED:

Operation and Maintenance Instruction Technical Manual for Trainer Device 19H3, NAVTRADEV 0-6099 (U).

REFERENCE PUBLICATIONS (NOT SUPPLIED):

FOMM Technical Manual for Machinery Central Control System ARS 50 Class, NAVSEA Preliminary, 29 June 1984, Volumes I and II, (U).

INSTALLATION REQUIREMENTS:

Habitable temperature and humidity, raised flooring to accommodate cabling, and a 30' x 30' installation area.

PERSONNEL:

Instructor: Two (2) Enginemen 1st Class, NCE 4365 or two (2) Interior Communications Electrician 1st Class, NEC 4705

Operator: Instructor operated

Trainees: Overview Course: Up to 15
 Operator Course: Up to 8
 Maintenance Course: Up to 5

Maintenance: Maintenance Personnel with the following prerequisites:

An instructor/operator course, a digital computer and peripheral maintenance course, a device maintenance course, a programmer software course.

CONTRACT IDENTIFICATION:

Manufactured by ELDEC Corporation, Lynnwood, WA under NAVSEASYS COM Contract No. N00024-83-C-2139.

LOCAL STOCK NUMBER:

6910-LL-C00-6611